IN THE SPECIFICATION

Please replace the paragraph at page 1, lines 5-9, with the following rewritten paragraph:

This application is based upon and claims the benefit of priority from the prior Japanese Patent Application No. 2000-245026, filed August 11, 2000, the entire ~~feature~~ features of which are incorporated herein by reference.

Please replace the paragraph at page 1, lines 12-21, with the following rewritten paragraph:

The present invention pertains to a video compression encoding apparatus in accordance with an MPEG scheme or the like for use in a video transmission system or a picture database system via Internet or the like. More particularly, the present invention relates to a video encoding apparatus and a video encoding method for carrying out encoding in accordance with encoding parameters corresponding to the feature of a scene by means of a technique ~~called~~ referred to as two-pass encoding.

Please replace the paragraph at page 2, lines 3-12, with the following rewritten paragraph:

A conventional video encoding scheme based on the MPEG scheme carries out processing ~~called~~ referred to as rate control for setting encoding parameters such as frame rate or quantization step size so as to be obtained as a value obtained when a bit rate of an encoding bit stream to be outputted, thereby carrying out encoding in order to transmit compression video data by means of a transmission channel in which a transmission rate is specified or in order to record the video data in a storage medium with its limited record capacity.

Please replace the paragraph at page 3, lines 16-25, with the following rewritten paragraph:

Therefore, there is a need to solve such a problem, and some techniques are already known for that purpose. Apart from a scheme in which rate control is conducted by means of a method ~~called~~ referred to as two-pass encoding among them, many of the others primarily include a method in which attention is paid to only a change in number of generated bits. Considering a relationship between video feature and the amount of coded bits has been limited to a special case such as fade-in fade-out, for example.

Q4

Please insert the following Title at page 5, between lines 12-13, as follows:

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BRIEF SUMMARY OF THE INVENTION

Please delete the Title at page 5, line 20, in its entirety.

Please replace the paragraph at page 8, lines 22-24, with the following rewritten paragraph:

B6

FIGS. ~~8A and 8B~~ 8A-8C are views showing procedures for adjusting an amount of coded bits in a system according to the present invention;

Please replace the paragraph at page 11, lines 3-6, with the following rewritten paragraph:

B7

The source data 200 is video image data recorded in a video recorder/player device such as a digital VTR or DVD system capable of reproducing identical signals a plurality of times.

Please replace the paragraph at page 11, line 27 to page 12, line 11, with the following rewritten paragraph:

The structured information providing device 240 is a ~~main-machine~~ man-machine interface that has at least an input device such as a keyboard and a pointing device such as mouse, and has a display. This device carries out various operational inputs or instructive inputs including edit operation employing an input device or ~~receives~~ receiving the key-frame image and feature amount of each scene stored in the structured information storage device 230, whereby these image and feature amount are displayed on a display in a providing manner as shown in FIG. 2, and the feature of a video image signal are provided to a user.

B8

Please replace the paragraph at page 13, line 17 to page 14, line 1, with the following rewritten paragraph:

Now, an operation of the thus configured system will be described here. A system according to the present invention is a scheme that first carries out first pass processing (optimization preparation mode), and then, carries out second pass processing (execution mode). Thus, in this system, a video recorder/player device such as a digital VTR or DVD system capable of repeatedly reproducing and supplying identical video image signals many times is employed, data recorded in this video recorder/player device is reproduced, and the reproduced data is supplied as source data 200 to the decoder 210 via the signal line 20.

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Please replace the paragraph at page 20, line 27 to page 21, line 16, with the following rewritten paragraph:

In this way, in the second pass processing, a video image signal supplied via the signal line 21 is encoded by means of the encoder 100. For such encoding, optimum

B10

parameters stored in the optimum parameter storage device 260 ~~is~~ are employed, thereby generating a bit stream in which the amount of coded bits is properly distributed according to the feature of a scene. As a result, a video image is analyzed, and the feature of a scene is utilized for edit operation. In addition, a bit rate is distributed according to the feature of a scene, and video image encoding for efficiently distributing encoding parameters can be carried out so that the entire bit rate meets a predetermined bit rate, and no skip is generated. In addition, there can be provided an encoding method capable of obtaining a decoded image that is visible even in the same data size.

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Please replace the paragraph at page 22, lines 16-26, with the following rewritten paragraph:

At the feature amount computing device 220, an inputted video image signal 21 is divided into a plurality of scenes other than frames such as a flash frame or noise frame due to a difference between the adjacent frames. The flash frame used here denotes a frame in which luminescence rapidly increases at a moment when a flash (strobe) light-emits at an interview scene in a news program, for example. In addition, the noise frame denotes a frame in which an image quality is significantly degraded due to a camera swinging or the like.

B11

Please replace the paragraph at page 24, lines 17-22, with the following rewritten paragraph:

That is, after the motion vector has been computed relevant to each frame, the distribution of motion vectors is investigated, and scenes are classified. Specifically, the distribution of motion vectors in a frame is computed, and it is checked which of the five type shown in FIGS. 6A to 6D each frame belongs to.

B12

Please replace the paragraph at page 28, lines 15-21, with the following rewritten paragraph:

B13

Formula (2) denotes that an increase in representative value of a motion vector MVnum_j causes an increase in quantization step size QP (j). That is, a scene including a large motion increases a quantization step size. Conversely, a scene including a small motion decreases a quantization step size, ~~an~~ a clearer and sharper image is produced.

Please replace the paragraph at page 30, line 22 to page 31, line 6, with the following rewritten paragraph:

B14

In MPEG-4 as well, although an image is divided into blocks with 16 x 16 pixels, and processing is advanced in units of blocks, these block units are ~~called~~ referred to as a macro-block. At the encoding parameter generator 251, in the case where a user specifies that a quantization step size is changed for each macro-block, the quantization step size is set to be smaller than that of another macro-block relevant to a macro-block in which it is determined that a strong edge exists such as macro-block or telop characters in which it is determined that a mosquito noise is likely to occur in a frame.

Please replace the paragraph at page 40, lines 5-10, with the following rewritten paragraph:

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Now, a description will be given with respect to an example when, in the case where source data is ~~am~~ an MPEG stream (MPEG-2 stream in the case of DVD), an amount of first pass processing is reduced by partially reproducing only a required signal instead of reproducing all the bit streams at the first pass.

Please replace the paragraph at page 40, lines 21-26, with the following rewritten paragraph:

Here, in the case where a large number of blocks is to be intra-frame encoded based on mode information, it is presumed that a scene change occurs. Thus, such blocks can be utilized for judgment of scene change point at the feature amount computing device 220 (refer to FIG. 1).

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